

FIG. 1

	A	B	C	D	E	F	G	H	I	
1	Customer Benefit Model									
2										
3										
4										
5	Files									
6	Project Name	052201e		Scenario #						
7	CBM Directory	C:\lanRawles\Projects\CBM\latest\thomas2								
8	CBM DE Directory	C:\lanRawles\Projects\CBM\latest\thomas2\So								
9	CBM Project Directory	C:\lanRawles\Projects\CBM\latest\thomas2\projects\052201d								
10	Simulation Directory	C:\program files\simulation2000								
11										
12										
13										
14	Time to run Simulation (days)	1								
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										

Workflow

Create Project

Shift Data

Line Configuration

Board Data

Create Simulation

Save and Exit

Build your project and set up the directory for experiments

FIG. 2

TOT090" T042Z860

	W	X	Y	Z	AA	AB
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

C:\lanRawles\Projects\CBM\latestthomas2
C:\lanRawles\Projects\CBM\latestthomas2\So
C:\lanRawles\Projects\CBM\latestthomas2\projects\052201d

FIG. 2A

A			
<input checked="" type="checkbox"/> Desktop			
<input checked="" type="checkbox"/> My Computer			
<input type="checkbox"/> Diskette A			
<input type="checkbox"/> (C:)			
<input type="checkbox"/> (D:)			
<input type="checkbox"/> Data			
<input type="checkbox"/> Recycler			
<input type="checkbox"/> Tmm_XXXX			
<input type="checkbox"/> CBA Calculator			
<input type="checkbox"/> CTM			
<input type="checkbox"/> COO			
<input type="checkbox"/> Pricing			
<input type="checkbox"/> S.G.S.			
<input type="checkbox"/> Sales Training			
<input type="checkbox"/> SIPLACE CBM			
<input type="checkbox"/> Projects			
<input type="checkbox"/> Test 2001-05-16-01			
<input type="checkbox"/> 1			
<input type="checkbox"/> Test 1			
<input type="checkbox"/> Test 2			
<input type="checkbox"/> Test 3			
<input type="checkbox"/> Test 4			
<input type="checkbox"/> So			
<input type="checkbox"/> SIPLACE CEM ARCHIVE			

Name	Size	Type	Date & Time
<input type="checkbox"/> 1	550KB	Microsoft Excel-Tab	16:05:01 13:21
<input type="checkbox"/> CBM.xls	550KB	Microsoft Excel-Tab	16:05:01 13:03
<input type="checkbox"/> CBM Reports.xls	550KB	Microsoft Excel-Tab	16:05:01 13:07
<input type="checkbox"/> CBM.transfer.xls	550KB	Microsoft Excel-Tab	16:05:01 13:08

FIG. 3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Main																				
2	Shift Schedule										SHIFT 1										
3											SHIFT 2										
4	Monday	14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	21:00	21:00	21:00	23:00	23:00
5	Tuesday	14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	21:00	21:00	21:00	23:00	23:00
6	Wednesday	14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	21:00	21:00	21:00	23:00	23:00
7	Thursday	14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	21:00	21:00	21:00	23:00	23:00
8	Friday	14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	21:00	21:00	21:00	23:00	23:00
9	Saturday	14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	21:00	21:00	21:00	23:00	23:00
10	Sunday	14	7:00	7:00	7:00	12:00	13:00	13:00	13:00	15:00	15:00	15:00	20:00	21:00	21:00	21:00	21:00	21:00	21:00	23:00	23:00
11	shifts apply for model	0																			
12	initial Offset	1																			
13	Only lunch break applies	0	not working																		
14	Breaks apply for machines	0																			
15	Weeks per year	50																			
16	Days of per year	10																			
17	Hours per day	24.00																			
18	Hours per day/average	23.31																			
19	Hours per week	168.00																			
20	Hours per week/average	163.20																			
21	Hours per year	8160.00																			
22		#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
23		1	break 1 start	break 1 end	lunch start	lunch end	break 2 start	break 2 end	shift start	shift end	shift start	break 1 start	break 1 end	lunch start	lunch end	break 2 start	break 2 end	shift start	shift end		
24		2																			
25		3																			
26		4																			
27		5																			
28		6																			
29		10	6:00	8:00	8:15	10:00	10:30	14:00	14:00	14:00	14:00	16:00	16:15	18:00	18:30	22:00	22:00	22:00	22:00	22:00	22:00
30		11																			

FIG. 4

FOUO 20120426

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
31			12	7:00			12:00	13:00			15:00	15:00			20:00	21:00			23:00	23:00
32			13	7:00	8:00	8:15	12:00	12:30	15:00	15:15	19:30	19:30	20:00	20:15	0:00	0:30	3:00	3:15	7:00	
33			14	7:00			12:00	13:00			15:00	15:00			20:00	21:00			23:00	23:00
34			15																	
35			16																	
36			17																	
37			18																	
38			19																	
39			20																	
40			21																	
41			22																	
42			23																	

FIG. 4A

V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO																					
1																																								
2	SHIFT 3																																							
3	break 1				lunch				break 2				shift				shift 1				shift 2				shift 3															
4	start	end	start	end	start	end	start	end	start	end	start	end	start	end	start	end	total	lunch	break1	break2	total	lunch	break1	break2	total	lunch	break1	break2												
5	2300	2300	400	500	500	500	500	700	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000												
6	2300	2300	400	500	500	500	500	700	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000												
7	2300	2300	400	500	500	500	500	700	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000												
8	2300	2300	400	500	500	500	500	700	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000												
9	2300	2300	400	500	500	500	500	700	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000												
10	2300	2300	400	500	500	500	500	700	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000	800	100	000	000												
11																	5600	700	000	000	5600	700	000	000	5600	700	000	000												
12																	16800																							
13																	16800																							
14																	2400																							
15																																								
16																																								
17																																								
18																																								
19																																								
20																																								
21																																								
22	break 1				lunch				break 2				shift																											
23	start	end	start	end	start	end	start	end	start	end	start	end	start	end	start	end																								
24																																								
25																																								
26																																								
27																																								
28																																								
29	0000				00:15				2:00				2:30																											
30																																								
																	Default																							

	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
31																				
32				4:00	5:00		7:00	→ Customer 1												
33								→ Customer 2												
34				4:00	5:00		7:00	→ Customer 3												
35								→ Customer 4												
36																				
37																				
38																				
39																				
40																				
41																				
42																				

FIG. 4C

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S				
Line Configuration			Insert			Delete			Database			Main										
			Return to the Main page																			
1																						
2	insert	# of process cells	transport system SD-1	synch	assistants (min/ min)	maintenance (h/min)				failure (h/min)		grafic		month		maintenan		qu				
3	row					shift		week		level 1		MTTR		MTBM		MTIM			MTBM			
4	delete row					MTBA		MTTR		MTBM		MTTR		MTBF		MTTR			MTBM		MTIM	
5						MTBA		MTTR		MTBM		MTTR		MTBF		MTTR			MTBM		MTIM	
9	1	7300 Buffer	0	0	0	60	1	0	0	163.2	0	0	0	0	100	0	680	0	4080			
10	2	7511 Conveyor 1060	0	1	1	60	1	0	0	163.2	0	0	0	0	200	0	680	0	4080			
11																						
12																						
13																						
14																						
15																						
16																						
17																						
18																						
19																						
20																						
21																						
22																						
23																						
24																						
25																						
26																						
27																						
28																						
29																						
30																						
31																						
32																						
33																						
34																						

FIG. 5

T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													
31													
32													
33													
34													

FIG. 5A

	AU	AV	AW	AX	AY	AZ
1						
2						Bare Board Loader
3						Buffer
4						Conveyor 1060
5						Conveyor 1590
6						Conveyor 2380
7						F4 x 2 / SPL
8						F4 x 3 / SPL
9						F5
10						F5 x 2 / SPL
11						F5 x 3 / SPL
12						Flip Station 180
13						HS-50
14						HS-50 x 2 / SPL
15						HS-50 x 3 / SPL
16						Last Lift
17						Magazine Buffer MB100
18						Magazine Buffer MB50
19						Magazine Loader ML02
20						Magazine Loader ML05
21						Magazine Unloader MU02
22						Magazine Unloader MU05
23						Printer pro-flow
24						Printer pro-flow temp control
25						Printer squeegee operation
26						Printer squeegee operation temp control
27						RX 261
28						RX 262
29						RX 331
30						RX 332
31						RX 411
32						RX 412
33						
34						

FIG. 5B

	AU	AV	AW	AX	AY	AZ
35				S-20		
36				S-23		
37				S-25		
38				Shuttle-1 lane to 2 lane		
39				Shuttle-2 lane to 1 lane		
40				Telescopic Gate TG		
41				Turn Station TS		

FIG. 5C

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
		Line Configuration										Insert		Delete		Database		Main			
		Return to the Main page																			
1																					
2	insert																				
3	row																				
4	delete row																				
5																					
6																					
7																					
8	1																				
9	2																				
10																					
11																					
12																					
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					
26																					
27																					
28																					
29																					
30																					
31																					
32																					
33																					
34																					

	# of access cells	transport system		assist (min/ min)		maintenance (h/min) week		failure (h/min) level 1		graphic		month		maintenanc qu	
		SID- Lane	synch asynch	MTBA	MITRI	MTBA	MITRI	MTBM	MITRI	MTBF	MTTR	MTBM	MITRI	MTBM	MITRI
0	0	0	0	0	0	163.2	0	0	0	0	100	0	680	0	4080
1	1	1	1	60	1	0	0	163.2	0	0	200	0	680	0	4080

FIG. 6

[illegible]

FIG. 7

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
33	F4 x 2/SPL	1042	1	1	3	60	1					450				163.20		680.00
34	F4 x 3/SPL	1043		1	1	60	1					875				163.20		680.00
35	F5	1050	1	1	1	60	1					200				163.20		680.00
36	F5 x 2/SPL	1052	1	1	2	60	1					450				163.20		680.00
37	F5 x 3/SPL	1053	1	1	3	60	1					450				163.20		680.00
38	Flip Station 180	7580	1	1	0	60	1					200				163.20		680.00
39	HS-50	1500	1	1	2	60	1					400				163.20		680.00
40	HS-50 x 2/SPL	1502	1	1	4	60	1					850				163.20		680.00
41	HS-50 x 3/SPL	1503	1	1	6	60	1					1250				163.20		680.00
42	Last Lift	7500	0	0	0	60	1					700				163.20		680.00
43	Magazine Buffer MB100	7310	0	0	0	60	1					100				163.20		680.00
44	Magazine Buffer MB50	7310	0	0	0	60	1					100				163.20		680.00
45	Magazine Loader ML02	7600	1	1	0	60	1					200				163.20		680.00
46	Magazine Loader ML05	7610	1	1	0	60	1					200				163.20		680.00
47	Magazine Unloader MU02	7601	1	1	0	60	1					200				163.20		680.00
48	Magazine Unloader MU05	7611	1	1	0	60	1					200				163.20		680.00
49	Printer pro-flow	9003	1	1	1	60	1					200				163.20		680.00
50	Printer pro-flow temp control	9004	1	1	1	60	1					200				163.20		680.00
51	Printer squeegee operation	9001	1	1	1	60	1					200				163.20		680.00
52	Printer squeegee operation temp control	9002	1	1	1	60	1					200				163.20		680.00
53	RX 261	8001	1	1	1	60	1					700				163.20		680.00
54	RX 262	8002	1	1	1	60	1					700				163.20		680.00
55	RX 331	8003	1	1	1	60	1					700				163.20		680.00
56	RX 332	8004	1	1	1	60	1					700				163.20		680.00
57	RX 411	8005	1	1	1	60	1					700				163.20		680.00
58	RX 412	8006	1	1	1	60	1					700				163.20		680.00
59	S-20	1200	1	1	1	60	1					200				163.20		680.00
60	S-23	1230	1	1	1	60	1					200				163.20		680.00
61	S-25	1250	1	1	1	60	1					200				163.20		680.00
62	Shuttle - 1 lane to 2 lane	7100	0	0	0	60	1					100				163.20		680.00
63	Shuttle - 2 lane to 1 lane	7200	0	0	0	60	1					100				163.20		680.00
64	Telescopic Gate TG	7550	1	1	0	60	1					150				163.20		680.00
65	Turn Station TS	7570	1	1	0	60	1					200				163.20		680.00
66																163.20		680.00
67																163.20		680.00
68																163.20		680.00

FIG. 7A

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
33	F4 x2 / SPL	1042	1	1	3	60	1									163.20		680.00
34	F4 x3 / SPL	1043	1	1	3	60	1									163.20		680.00
35	F5	1050	1	1	1	60	1									163.20		680.00
36	F5 x2 / SPL	1052	1	1	2	60	1									163.20		680.00
37	F5 x3 / SPL	1053	1	1	3	60	1									163.20		680.00
38	Flip Station 180	7560	1	1	0	60	1									163.20		680.00
39	HS-50	1500	1	1	2	60	1									163.20		680.00
40	HS-50 x2 / SPL	1502	1	1	4	60	1									163.20		680.00
41	HS-50 x3 / SPL	1503	1	1	6	60	1									163.20		680.00
42	Last Lift	7500	0	0	0	60	1									163.20		680.00
43	Magazine Buffer MB100	7320	0	0	0	60	1									163.20		680.00
44	Magazine Buffer MB50	7310	0	0	0	60	1									163.20		680.00
45	Magazine Loader ML02	7600	1	1	0	60	1									163.20		680.00
46	Magazine Loader ML05	7610	1	1	0	60	1									163.20		680.00
47	Magazine Unloader MU02	7601	1	1	0	60	1									163.20		680.00
48	Magazine Unloader MU05	7611	1	1	0	60	1									163.20		680.00
49	Printer pro-flow	9003	1	0	1	60	1									163.20		680.00
50	Printer pro-flow temp control	9004	1	0	1	60	1									163.20		680.00
51	Printer squeegee operation	9001	1	0	1	60	1									163.20		680.00
52	Printer squeegee operation temp control	9002	1	0	1	60	1									163.20		680.00
53	RX 261	8001	1	1	1	60	1									163.20		680.00
54	RX 262	8002	1	1	1	60	1									163.20		680.00
55	RX 331	8003	1	1	1	60	1									163.20		680.00
56	RX 332	8004	1	1	1	60	1									163.20		680.00
57	RX 411	8005	1	1	1	60	1									163.20		680.00
58	RX 412	8006	1	1	1	60	1									163.20		680.00
59	S-20	1200	1	1	1	60	1									163.20		680.00
60	S-23	1230	1	1	1	60	1									163.20		680.00
61	S-25	1250	1	1	1	60	1									163.20		680.00
62	Shuttle - 1 lane to 2 lane	7100	0	0	0	60	1									163.20		680.00
63	Shuttle - 2 lane to 1 lane	7200	0	0	0	60	1									163.20		680.00
64	Telescopic Gate TG	7550	1	1	0	60	1									163.20		680.00
65	Turn Station TS	7570	1	1	0	60	1									163.20		680.00
66																163.20		680.00
67																163.20		680.00
68																163.20		680.00

FIG. 7B

TOT090.T0424860

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
69																163.20		880.00
70																163.20		880.00
71																163.20		880.00
72																163.20		880.00
73																163.20		880.00
74																163.20		880.00
75																163.20		880.00
76																163.20		880.00
77																163.20		880.00
78																163.20		880.00
79																163.20		880.00
80																163.20		880.00
81																163.20		880.00
82																163.20		880.00
83																163.20		880.00
84																163.20		880.00
85																163.20		880.00
86																163.20		880.00
87																163.20		880.00
88																163.20		880.00
89																163.20		880.00
90																163.20		880.00
91																163.20		880.00
92																163.20		880.00
93																163.20		880.00
94																163.20		880.00
95																163.20		880.00
96																163.20		880.00
97																163.20		880.00
98																163.20		880.00
99																163.20		880.00

FIG. 7C

09747010

[illegible]

FIG. 7D

S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
33	4080.00		8160.00		600	0			S25Cluster2_L1	S25Cluster2	Lift1				450
34	4080.00		8160.00		900	0			S25Cluster3_L1	S25Cluster3	Lift1				875
35	4080.00		8160.00		200	0			S25_L1	S25	Conveyor001				200
36	4080.00		8160.00		600	0			S25Cluster2_L1	S25Cluster2	Lift1				450
37	4080.00		8160.00		900	0			S25Cluster3_L1	S25Cluster3	Lift1				875
38	4080.00		8160.00		200	0			Flip_Station		Printnrc				200
39	4080.00		8160.00		350	0			HS50_L1	HS50	Conveyor001				400
40	4080.00		8160.00		900	0			HS50Cluster2_L1	HS50Cluster2L	Lift1				850
41	4080.00		8160.00		1350	0			HS50Cluster3_L1	HS50Cluster3L	Lift1				1250
42	4080.00		8160.00		100	0			Loadlift		Lift4				700
43	4080.00		8160.00		150	0			Buffer_Magazine100		B1				100
44	4080.00		8160.00		150	0			Buffer_Magazine50		B1				100
45	4080.00		8160.00		200	0			Magazine_Loader2		Printnrc				200
46	4080.00		8160.00		200	0			Magazine_Loader5		Printnrc				200
47	4080.00		8160.00		200	0			Magazine_Unloader2		Printnrc				200
48	4080.00		8160.00		200	0			Magazine_Unloaders		Printnrc				200
49	4080.00		8160.00		200	0			Printer		Printnrc				200
50	4080.00		8160.00		200	0			Printer		Printnrc				200
51	4080.00		8160.00		200	0			Printer		Printnrc				200
52	4080.00		8160.00		200	0			Printer		Printnrc				200
53	4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001				700
54	4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001				700
55	4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001				700
56	4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001				700
57	4080.00		8160.00		1400	0			Oven_1Lane	Oven_2	Oven_2001				700
58	4080.00		8160.00		200	0			S25_L1	S25	Conveyor001				200
59	4080.00		8160.00		200	0			S25_L1	S25	Conveyor001				200
60	4080.00		8160.00		200	0			S25_L1	S25	Conveyor001				200
61	4080.00		8160.00		200	0			S25_L1	S25	Conveyor001				200
62	4080.00		8160.00		100	0			Shuttle1		Shuttle				100
63	4080.00		8160.00		100	0			Shuttle2		Shuttle				100
64	4080.00		8160.00		150	0			ConVTS		com6_2001				150
65	4080.00		8160.00		200	0			Turn_Station		Printnrc				200
66	4080.00		8160.00												
67	4080.00		8160.00												
68	4080.00		8160.00												

FIG. 7E

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
69		4080.00		8160.00												
70		4080.00		8160.00												
71		4080.00		8160.00												
72		4080.00		8160.00												
73		4080.00		8160.00												
74		4080.00		8160.00												
75		4080.00		8160.00												
76		4080.00		8160.00												
77		4080.00		8160.00												
78		4080.00		8160.00												
79		4080.00		8160.00												
80		4080.00		8160.00												
81		4080.00		8160.00												
82		4080.00		8160.00												
83		4080.00		8160.00												
84		4080.00		8160.00												
85		4080.00		8160.00												
86		4080.00		8160.00												
87		4080.00		8160.00												
88		4080.00		8160.00												
89		4080.00		8160.00												
90		4080.00		8160.00												
91		4080.00		8160.00												
92		4080.00		8160.00												
93		4080.00		8160.00												
94		4080.00		8160.00												
95		4080.00		8160.00												
96		4080.00		8160.00												
97		4080.00		8160.00												
98		4080.00		8160.00												
99		4080.00		8160.00												

FIG. 7F

TOT030"FO12Z860

	N	O	P	Q	R	S	T	U	V	W	X	Y
1												
2	10	11	12	13	14	15	16	17	18	19	20	21
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13	999	999	999	999	999	999	999	999	999	999	999	999
14	999	999	999	999	999	999	999	999	999	999	999	999

FIG. 8A

TOTOTO"FOH2860

	Z	AA	AB	AC	AD	AE	AF	AG	AH
1									
2	22	23	24	25	26	27	28	29	30
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13	999	999	999	999	999	999	999	999	999
14	999	999	999	999	999	999	999	999	999

FIG. 8B

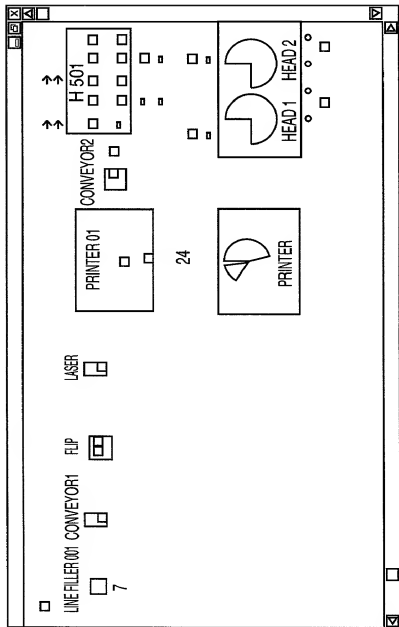


FIG. 9

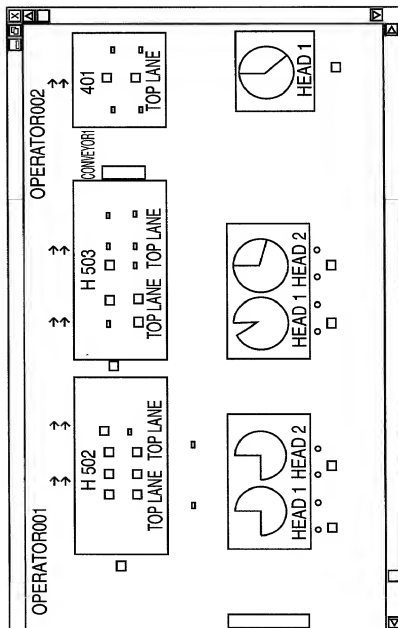


FIG. 9A

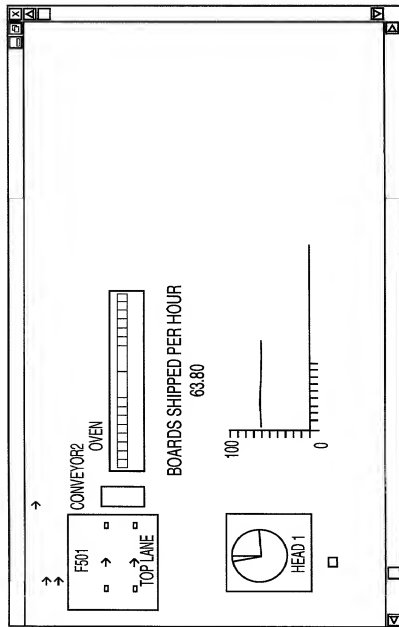


FIG. 9B

1	A	B	C	D	E	F	G	H	I	J	K	L
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												

FIG. 10

	A	B	C	D	E	F	G			
1	Boundaries									
2	Project	Test1 31/March 2001								
3	Date									
4										
5		default		project						
6	Financial									
7	Currency (Input)			0						
8	Currency (Output)			0						
9	Exchang ratio (In/Out)			0.00						
10	Depreciation			0.00%						
11	Interest Rate			0%						
12	Labor									
13	Operator			0						
14	Supervisor			0.00						
15	Maintenance			0.00						
16	Rework			0.00						
17	Utilities									
18	floorspace (year/spm)			0						
19	electricity (kWh)			0.00						
20	Nitrogen (???)			0.00						
21	air (???)			0.00						
22										
23										
24										
25										
26										

Main

Main

FIG. 11

	A	B	C	D	E	F	G			
1	<u>Setup</u>									
2										
3	internal setup									
4	Operator labor per hour	0.00	hours	0	Main					
5	setup changes every x h									
6	# of setup changes per week									
7	setup changes per year									
8	time per setup	0	min.							
9	setup time per year	0.00	hours	0	Main					
10	internal setup costs	0								
11										
12	external setup									
13	external setup labour per hour		minutes per setup	0	Main					
14	external setup									
15	external setup per year	0.00	hours	0						
16	investment for external setup									
17										
18										
19	external setup costs per year	0		0	Main					
20										
21	setup costs	0		0						

FIG. 12

	A	B	C	D	E	F	G	H
1	Quality							
2	material costs per board							
3	DPM							
4	components per board	500						
5	first pass yield	100%						
6	rework costs per board to rework							
7	scrap costs per board to rework							
8	rework costs per year	#DIV/0!						
9	scrap costs per year	#DIV/0!						
10								
11	quality costs per year	#DIV/0!						
12								
13								
14								
15								
16								
17								
18								

Main

FIG. 13

A		B	C	D	E	F	G	H	I
Maintenance			minutes	# of workers	who does maint.	downtime factor	line operator (h)	maint. team (h)	downtime (h)
1									
2	line workers		0						
3	maintenance per shift (min)		1						
4	maintenance weekly (min)		100%						
5	maintenance monthly add. (min)		1						
6	maintenance quarterly add. (min)		2						
7	maintenance every x h add. (min)		3						
8	maintenance time calculated (h)		10,000						
9	labor costs		100%						
10			#DIV/0!						
11	maintenance costs per year		#DIV/0!						
12			0.000000 €						
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

Main

FIG. 14

	A	B	C	D	E	F	F	H	I	J	K
1	Cost of Ownership										
2	Investment										Capacity
3	Investment			0	0						hours available per year 0.00
4	spareparts			0	0						internal setup #DIV/0!
5	service			0	0						maintenance #DIV/0!
6				0	0						quality
7											technical availability #DIV/0!
8	Labor										hours total
9	Operations			#DIV/0!	0						boards per hour 83.56
10	Supervisor			#DIV/0!	0						boards per shift #DIV/0!
11					0						boards per week #DIV/0!
12											boards per year
13	Misc.										
14	Setup			0	0						
15	Maintenance			#DIV/0!	0						
16				#DIV/0!	0						
17											
18	Utilities										
19	Floorspace			0	0						
20	Electricity			#DIV/0!	0						
21	Nitrogen			#DIV/0!	0						
22	Air			#DIV/0!	0						
23											
24											
25	Quality										
26	rework costs per year			#DIV/0!	0						
27	scrap costs per year			#DIV/0!	0						
28				#DIV/0!	0						
29											
30											
31	Costs per year										
				#DIV/0!	0						

Main

FIG. 15

FOF090"FOH2Z860

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
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28														
29														
30														
31														
32														
33														
34														
35														
36														
37														
38														
39														

FIG. 16

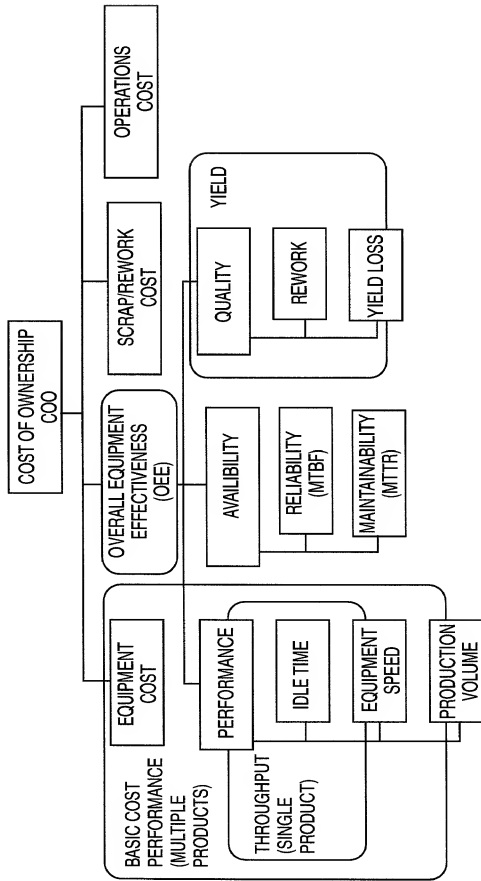


FIG. 16A

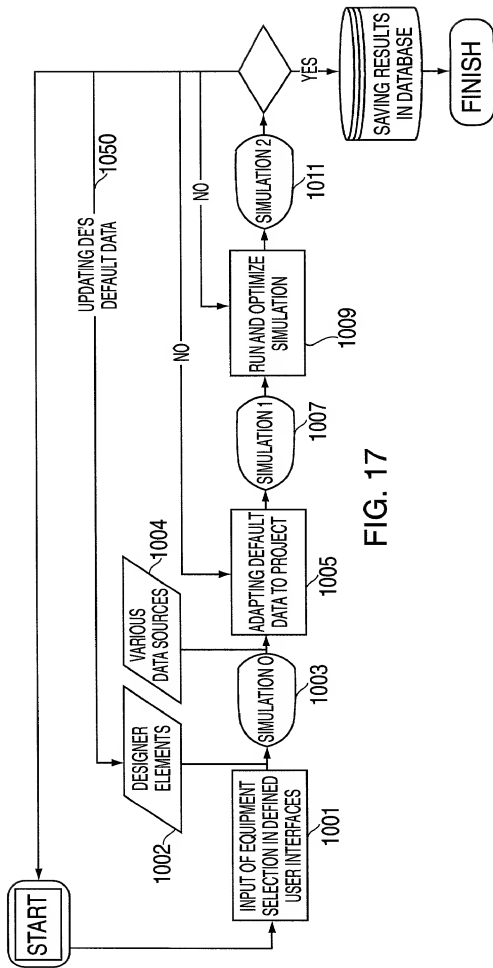


FIG. 17

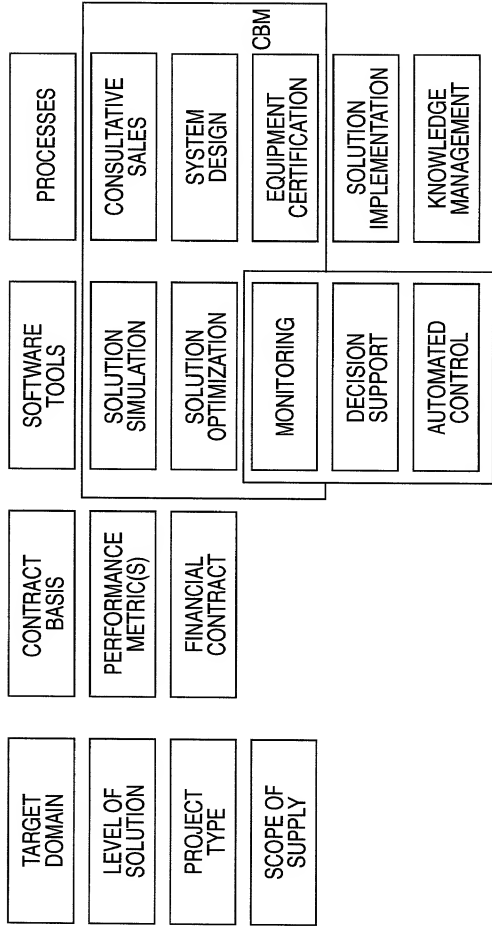


FIG. 18

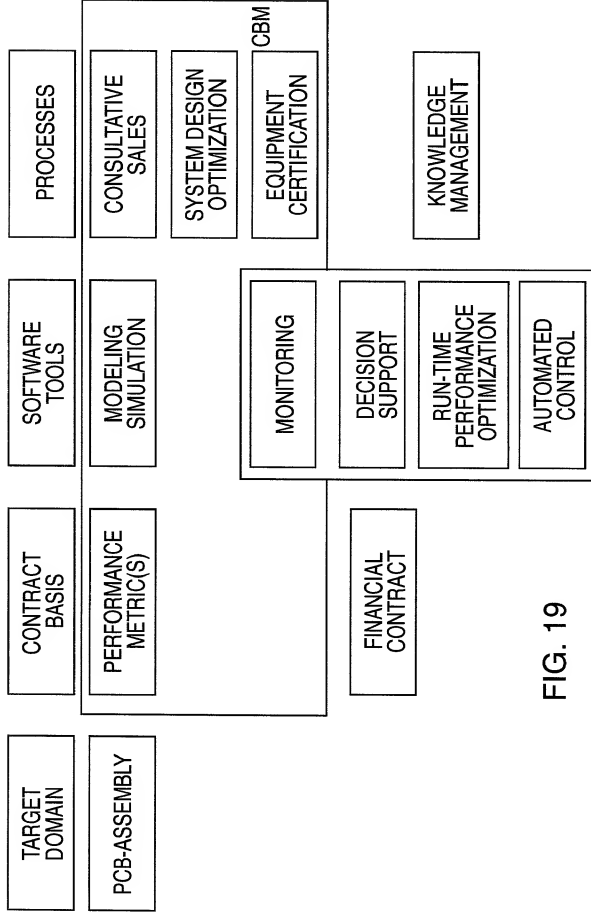
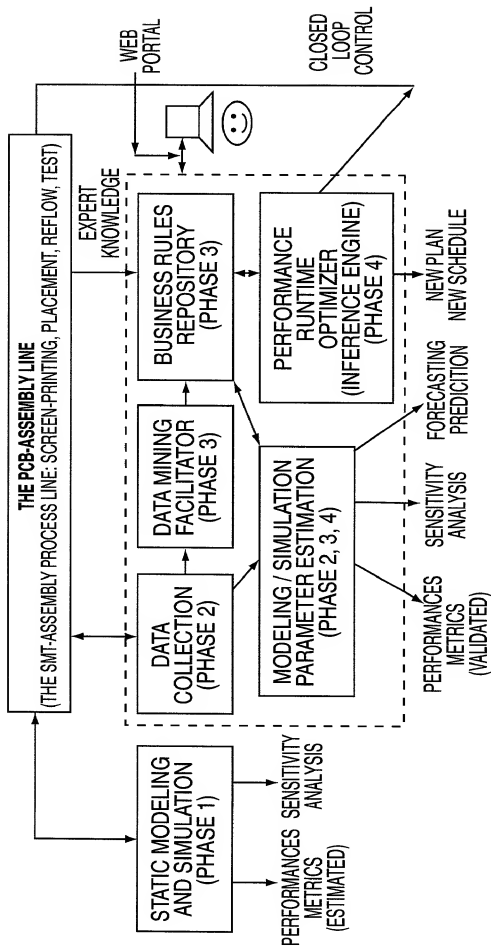


FIG. 19



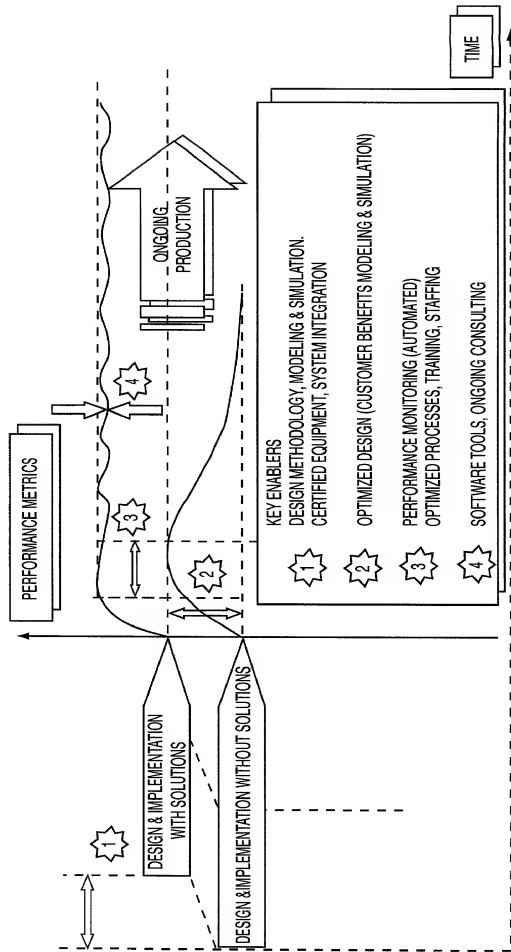


FIG. 21

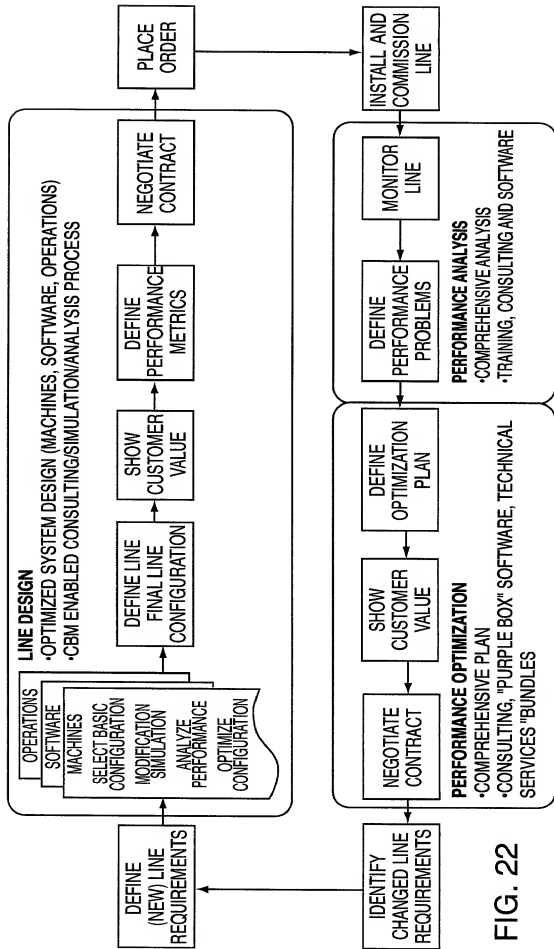


FIG. 22

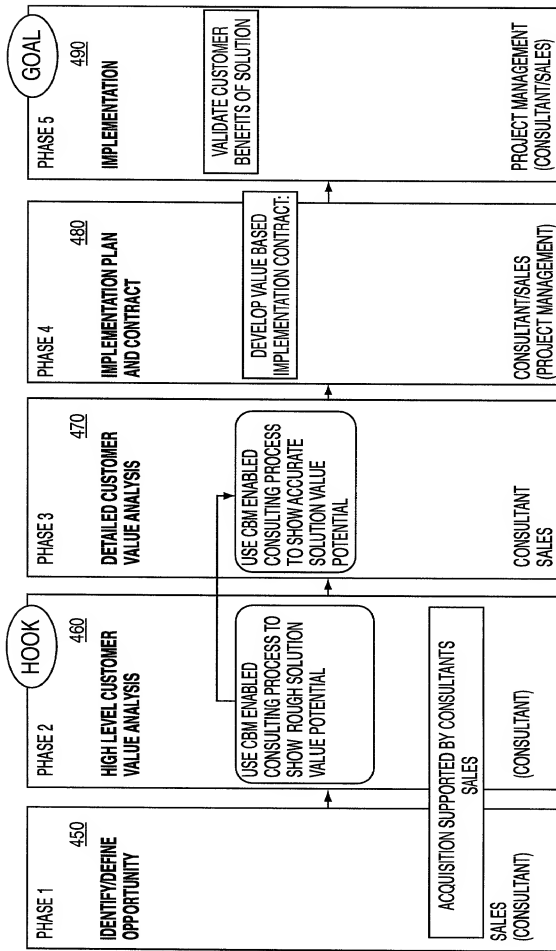


FIG. 23

09872401, 0501034

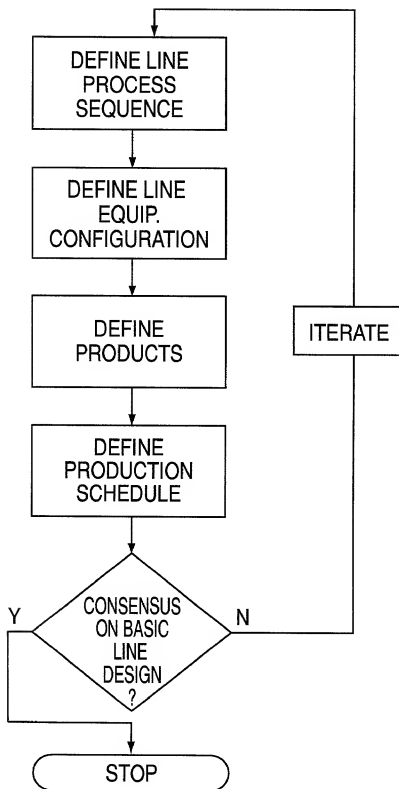


FIG. 24

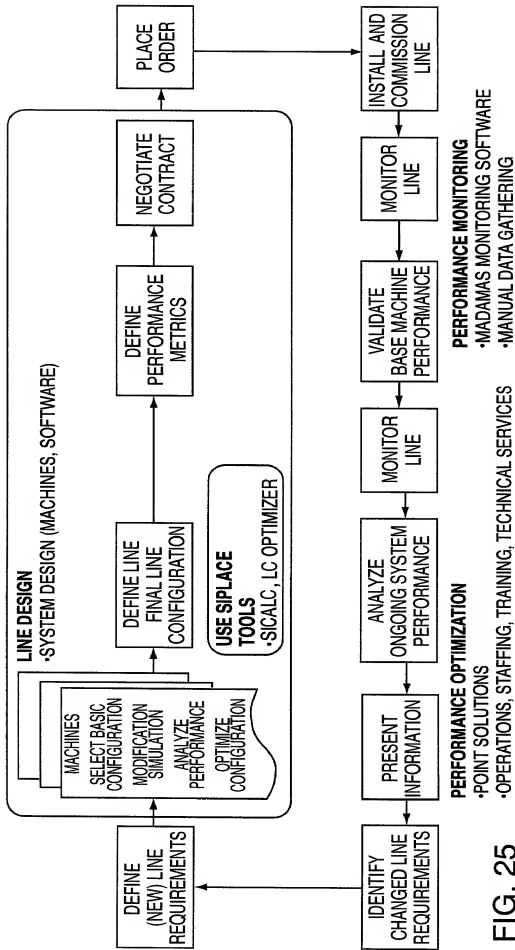
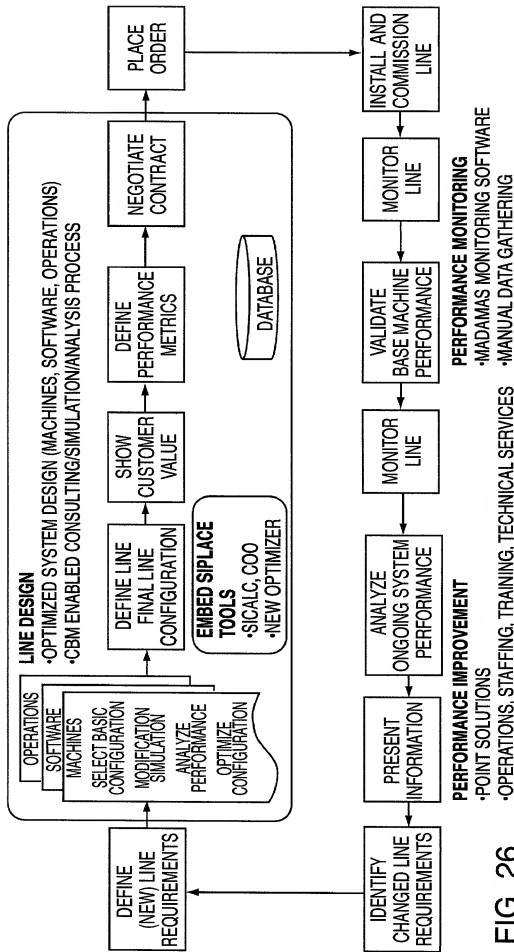


FIG. 25



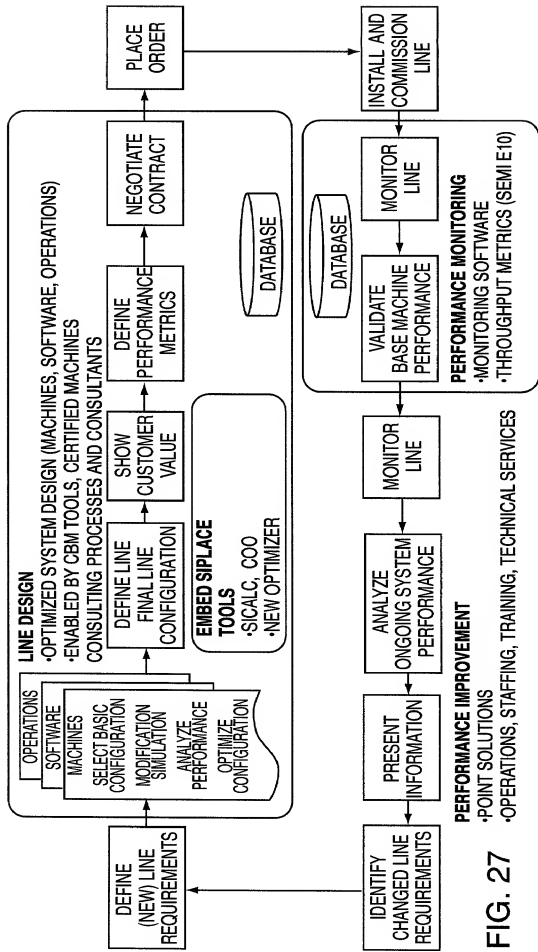


FIG. 27

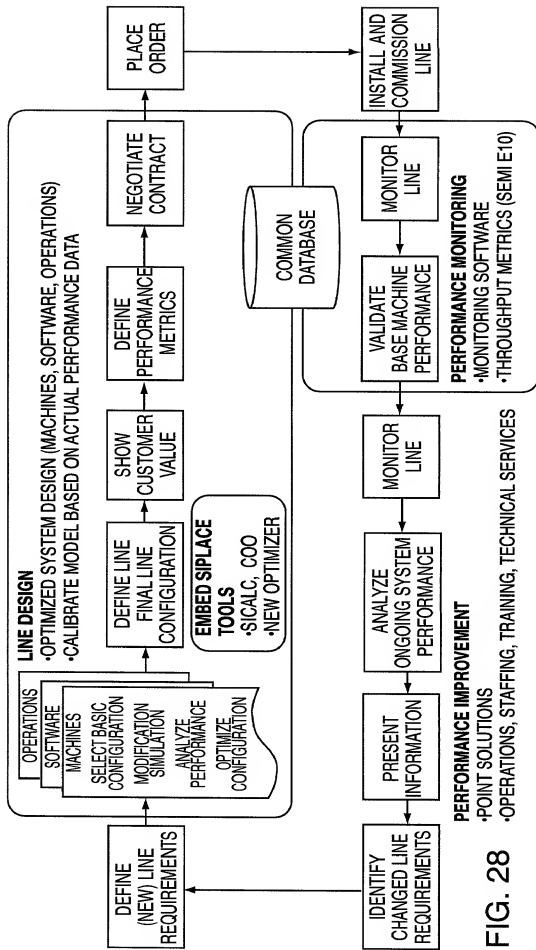


FIG. 28

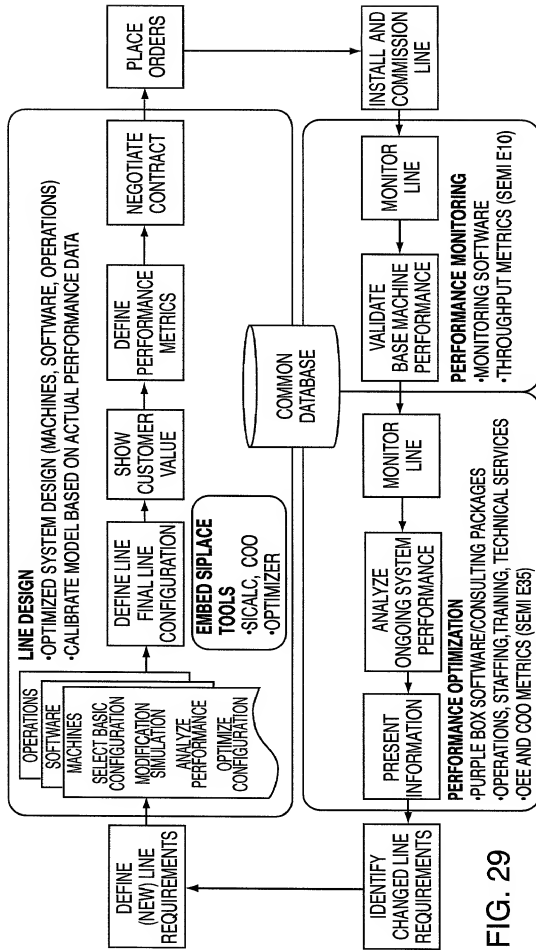


FIG. 29

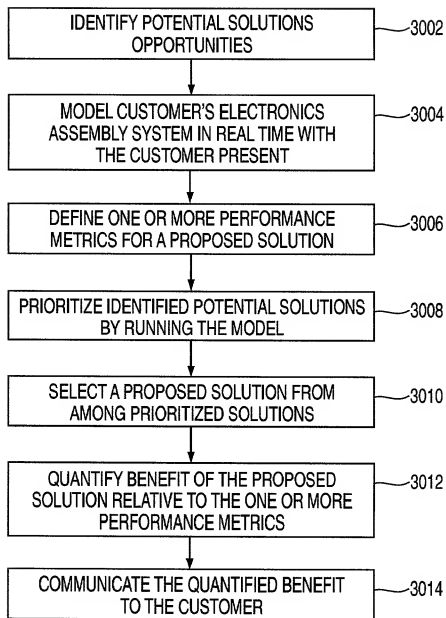


FIG. 30

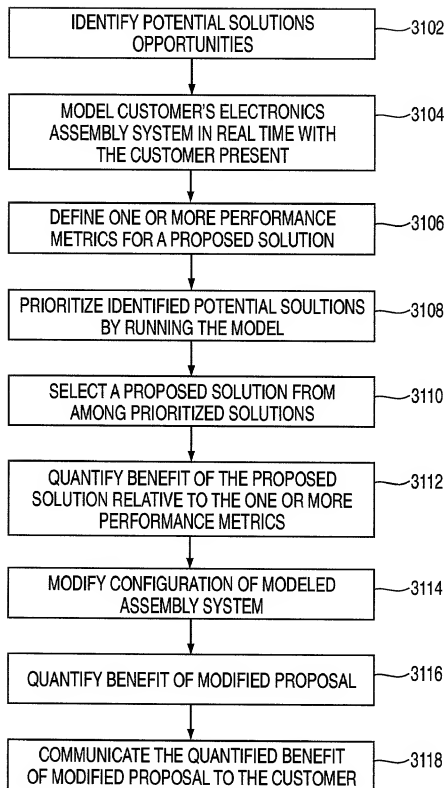


FIG. 31

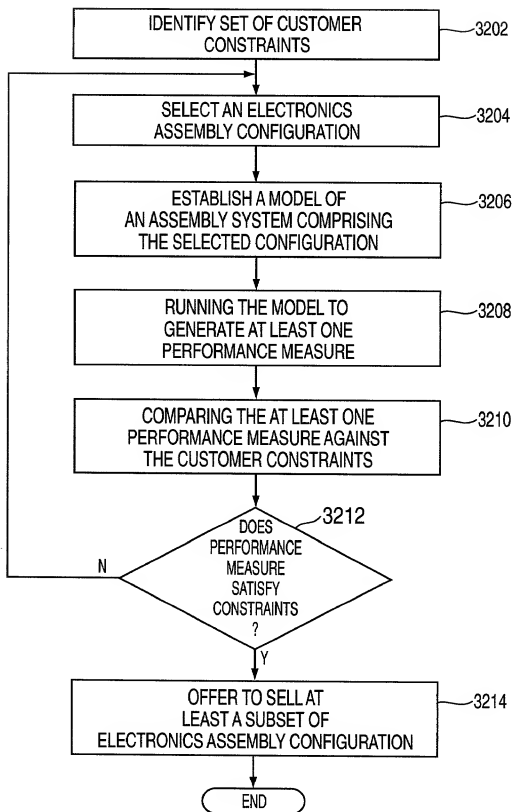


FIG. 32

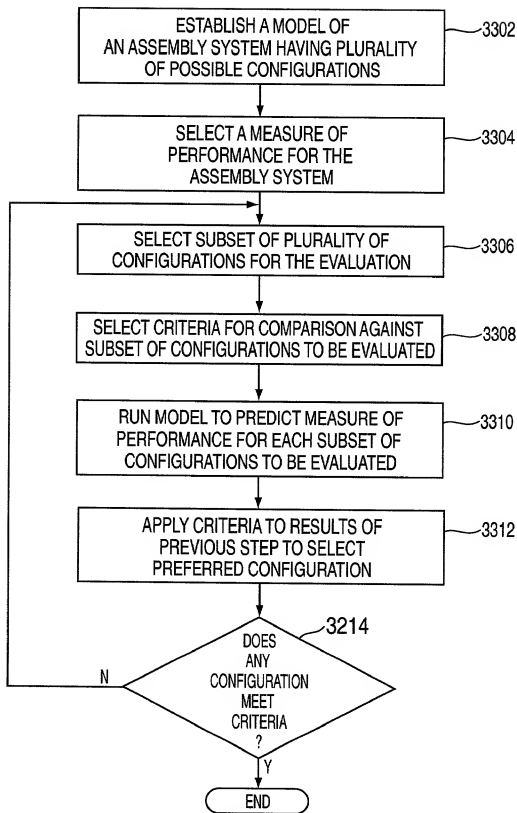


FIG. 33

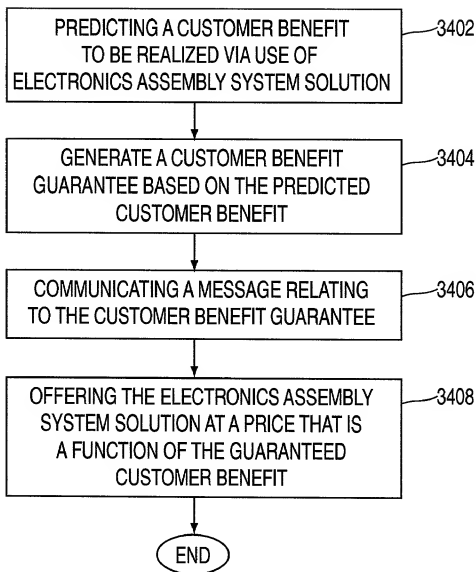
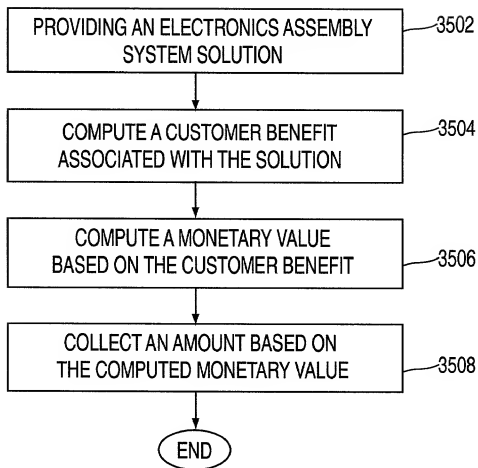


FIG. 34

**FIG. 35**

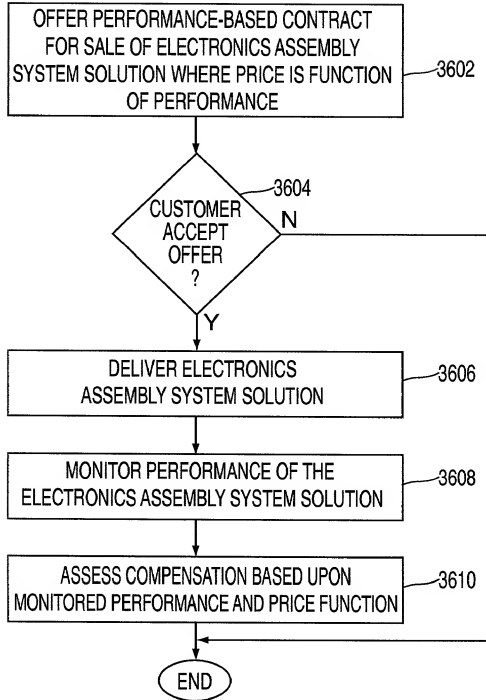


FIG. 36